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A Profile of Organizational Characteristics of Colleges of Dentistry

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Abstract. This study investigated the organizational characteristics of colleges of dentistry as perceived by their deans, associate deans, and department chairs. Likert's Profile of Organizational Characteristics is used to describe the administrative structures of the colleges on a continuum from exploitive/authoritative through benevolent/authoritative and consultative to participatory. In addition, administrators were asked to evaluate their colleges' effectiveness in adapting to an environment of change. The results indicate a relatively low level of participation in administration in contrast to a high desire for participation, and that administrators believe their colleges are only marginally effective in adapting to change.

Introduction

The climate in which colleges of dentistry exist is changing rapidly and dramatically. In addition to the economic forces that buffet society generally, external pressures on the profession include increased public concern for accountability and the cost of health care, changing population characteristics, and alterations in governmental health policies. The attitude of society toward the profession has become increasingly critical due to the historical failings of the profession. The profession is also contending with rapid alterations in disease patterns, expansion in the number of dentists at a rate that exceeds population growth and demand for care, and growth in alternative practice modes and settings, including pressure for independent auxiliary practice.

Given these pressures and changes, it is not surprising that this is a time of confusion and consternation—a time of concern regarding the ability of some colleges of dentistry to adapt and survive. Leaders in dental education have called for the adoption of innovative strategies and have suggested that managerial effectiveness will determine the survival of some colleges. Mulvihill has stated that a new administrative style is necessary, two essential characteristics of which are commitment to manage change and commitment to manage in close consultation and partnership with faculty in a mode of shared management.

Indeed, the management research of Likert indicates that organizations that best adapt to change are characterized by participatory administrative structures. His theory criticizes classical organizational structure for being autocratic and for using punishment as a principal source of motivation. Bureaucratically structured organizations are inappropriate in a society with high levels of education, great individual freedom, concern for full realization of human potential, and complex technology. His alternative, participatory management, is characterized by an effective social system for interaction, problem solving, influence, and achievement; objectives reflecting the needs and desires of members; high levels of reciprocal influence; effective and efficient communication; group participation in decision making; and high levels of individual satisfaction. The effectiveness of participatory management in business and industry has been documented extensively.

This paper reports the results of a study of the administrative structure of colleges of dentistry in the United States. The purposes of the study were to characterize current organizational structure using Likert's Profile of Organizational Characteristics and to determine current administrators' desired structures, using the same instrument.

Methods

The deans, associate deans, and departmental chairs of the 60 U.S. colleges of dentistry were surveyed for this study. Population membership was identified from the American Dental Association's Annual Report of Dental Education, 1982-83, and validated using the American Association of Dental Schools' Directory of Dental Educators, 1982-83. Only individuals with full-time appointments were included.

Likert's modified Profile of Organizational Characteristics (POC) was the survey instrument. This instrument was developed to assess organizations' managerial characteristics to determine characteristics associated with highly productive organizations. Stud-
ies in both industry and higher education document the validity of the instrument in measuring organizational performance. The POC assesses six organizational variables (leadership, motivation, communication, decision making, goals, and evaluation) using 16 items. For each item, responses are indicated on a scale of one to eight according to the degree to which the behavior is perceived in the organization. The scale values represent Likert's continuum of management styles: System 1, exploitive/authoritative (1,2); System 2, benevolent/authoritative (3,4); System 3, consultative (5,6); and System 4, participative/group (7,8). A composite of the scores of the six variables provides the individual's assessment of the organization's administrative structure.

In addition to rating their colleges on the POC as they currently exist, respondents were requested to indicate how they would like the colleges to operate. An addendum was attached to the POC asking the participants to rate their colleges' current effectiveness. A Likert-type scale of 1,2 (very ineffective); 3,4 (ineffective); 5,6 (effective); 7,8 (very effective) was used for this assessment. Chairs also were asked to rate the effectiveness of their deans in leading the college in an environment of change. Both chairs and deans were asked to indicate how long they had held their administrative positions.

The survey materials were mailed to 1,073 individuals in the study population. Means and standard deviations were calculated for respondents grouped by administrative position and identified by college category (public, private, and private/state related). Analysis of variance (ANOVA) was used to determine if significant differences (\( \alpha = .05 \)) existed among groups. Pearson’s product-moment correlations (r), also were used where appropriate.

### Results

Of the 1,783 surveys mailed, 765 completed responses were returned, a response rate of 71.29 percent (see Table 1). Response rates of deans and chairs were similar overall and within college type. Associate deans and all administrators in private colleges exhibited lower response rates.

Mean POC scores are shown in Table 2. The overall mean POC for the 765 administrators was 4.90. No significant differences existed among the administrators from public colleges (4.93), private colleges (4.87), or private/state-related colleges (4.84). Deans viewed the administrative structure as having a POC of 5.84. The POC score for the associate deans, 5.11, was significantly lower (p<0.001) than the deans. Department chairs' administrative structure score was 4.76, which differed significantly from the deans (p<0.000) and the associate deans (p<0.001). No significant differences in POC scores existed by administrative position among public, private, and private/state-related colleges. The range of college POC means was from 3.69 to 6.06.

The mean desired POC score for all respondents was 6.90 (see Table 3). Again, no significant differences existed among public (6.91), private (6.88), and private/state-related (6.88) colleges. Significant differences did exist among administrative positions regarding the desirability of participative management. The deans' desire for a group participative structure was the greatest among the administrators, with a POC of 7.29, followed by associate deans (7.00), and chairs (6.83). These differences were significant among all administrative positions (p<0.01). The range of scores by college was from 6.50 to 7.40. No relationships were found between years of experience and the desirability of par-

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**Table 1. Population and Respondents, Totals and as Percentage of Population, by Source of Institutional Support and Administrative Position**

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Private</th>
<th>Private/State-Related</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deans</td>
<td>263/35 (77.14%)</td>
<td>10/15 (66.67%)</td>
<td>8/10 (80%)</td>
<td>45/60 (75%)</td>
</tr>
<tr>
<td>Associate deans</td>
<td>112/167 (67.05%)</td>
<td>44/99 (42.42%)</td>
<td>24/41 (38.53%)</td>
<td>178/307 (57.985%)</td>
</tr>
<tr>
<td>Chairs</td>
<td>310/305 (78.48%)</td>
<td>113/163 (69.32%)</td>
<td>119/148 (80.40%)</td>
<td>542/706 (76.77%)</td>
</tr>
<tr>
<td>Totals</td>
<td>449/507 (75.20%)</td>
<td>165/277 (59.57%)</td>
<td>151/199 (75.88%)</td>
<td>765/1,073 (71.29%)</td>
</tr>
</tbody>
</table>

**Table 2. Current Profile of Organizational Characteristics Means by Administrative Position and Source of Institutional Support**

<table>
<thead>
<tr>
<th>All Categories of Support</th>
<th>Public</th>
<th>Private</th>
<th>Private/State-Related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deans</td>
<td>5.84 ± .77*</td>
<td>5.78 ± .71</td>
<td>5.77 ± .96</td>
</tr>
<tr>
<td>Associate deans</td>
<td>5.11 ± 1.16</td>
<td>5.04 ± 1.21</td>
<td>5.26 ± 1.08</td>
</tr>
<tr>
<td>Chairs</td>
<td>4.76 ± 1.31</td>
<td>4.82 ± 1.32</td>
<td>4.65 ± 1.22</td>
</tr>
<tr>
<td>All ranks</td>
<td>4.90 ± 1.28</td>
<td>4.93 ± 1.28</td>
<td>4.87 ± 1.22</td>
</tr>
</tbody>
</table>

*Standard deviation
ticipative management among any of the administrative positions or by source of support.

Respondents' evaluations of their colleges' effectiveness are presented in Table 4. The mean rating of effectiveness was 5.30. The perceptions of effectiveness did not differ significantly between deans (5.62) and associate deans (5.50). The mean chairs' rating of college effectiveness, 5.19, was significantly lower (p<0.05) than both deans and associate deans. No significant differences existed among the administrators by source of institutional support. The range of effectiveness scores among colleges was from 3.35 to 6.97. There was a significant positive relationship (r = 0.657, p<0.01) between the perceived effectiveness of colleges in managing in an environment of change and the current participative structure of the college across all ranks of administrators.

The mean department chairs' rating of deans' and associate deans' leadership effectiveness was 5.11. No significant differences existed among chairs grouped by source of institutional support. The range of scores by college was from 3.09 to 7.00. The perception of leadership effectiveness was correlated significantly (r = 0.6945, p<0.01) with the POC score by college.

Discussion

The responses of the administrators in this study suggest that the system of organization in U.S. colleges of dentistry approximates a consultative structure. The Profile of Organizational Characteristics falls between Likert's System 2 (benevolent/authoritative) and System 3 (consultative). The higher administrators are in the organizational hierarchy, the more participatory they view the organization. Deans viewed their colleges as significantly more participatory than did associate deans; and associate deans perceived the college more participatory than chairs. Deans believe their colleges are strongly consultative, and associate deans believe they are somewhat less so. Chairs believe that their colleges approximate a consultative structure but are more benevolent/authoritative in design.

Using Likert's characteristics, colleges of dentistry are authoritative in structure with benevolent motivations and a tendency toward consultation. Substantial confidence is shown in faculty, and faculty ideas are sought. Motivation appears to be rooted in a system of rewards and punishment, probably in the form of withholding or granting monetary benefits. Communication tends to be predominantly downward, but with some upward dimensions. Communication proceeding up the college hierarchy is probably censored to some degree for administrators. Administrators appear to be only marginally aware of problems facing faculty. Moderate degrees of interaction occur among the administrators and faculty. Decisions are made primarily at the higher levels of the college structure and subordinates are consulted erratically. The opportunity to participate in decision making contributes little to motivation within the college. Goals are usually decided after discussion; administrators then formalize the goals and direct that they be pursued. Control is lodged toward the top of the college and some degree of informal resistance exists.

Participative management theory would criticize colleges so characterized as being too authoritarian to adapt effectively to environmental flux. The argument would be made that, given the fact that the administrators and faculty are a group of professionals, a "community of scholar-colleagues," administrators should

Table 3. Desired Profile of Organizational Characteristics Means by Administrative Position and Source of Institutional Support

<table>
<thead>
<tr>
<th>Administrative Position</th>
<th>Public</th>
<th>Private</th>
<th>Private/State-Related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deans</td>
<td>7.29±.44</td>
<td>7.33±.48</td>
<td>7.21±.28</td>
</tr>
<tr>
<td>Associate deans</td>
<td>7.00±.63</td>
<td>7.01±.65</td>
<td>7.03±.65</td>
</tr>
<tr>
<td>Chairs</td>
<td>6.83±.62</td>
<td>6.84±.60</td>
<td>6.79±.65</td>
</tr>
<tr>
<td>All ranks</td>
<td>6.90±.63</td>
<td>6.91±.61</td>
<td>6.88±.64</td>
</tr>
</tbody>
</table>

*Standard deviation

Table 4. Effectiveness of Colleges in Adapting to an Environment of Change, by Administrative Position and Source of Institutional Support

<table>
<thead>
<tr>
<th>Administrative Position</th>
<th>Public</th>
<th>Private</th>
<th>Private/State-Related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deans</td>
<td>5.68±1.42</td>
<td>5.62±1.47</td>
<td>5.70±1.56</td>
</tr>
<tr>
<td>Associate deans</td>
<td>5.50±1.37</td>
<td>5.33±1.44</td>
<td>6.02±1.07</td>
</tr>
<tr>
<td>Chairs</td>
<td>5.19±1.59</td>
<td>5.18±1.58</td>
<td>5.43±1.39</td>
</tr>
<tr>
<td>All ranks</td>
<td>5.30±1.53</td>
<td>5.25±1.53</td>
<td>5.62±1.34</td>
</tr>
</tbody>
</table>

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demonstrate greater confidence in faculty and subordinate administrators by always seeking their ideas. In a structure characterized by participative management, involvement in the college would be seen as the major motivator for achievement of college goals. Administrators would be very aware of faculty problems, and problems would be communicated accurately to administrators by subordinates and faculty. Communication would be excellent, permeating the college in up, down, and lateral directions. Trust and confidence would be manifested by colleagues, with teamwork and cooperation. Faculty would be fully involved in decision making; an opportunity for such involvement would motivate faculty. Goals would be established by group action, and these goals, with wide acceptance, could serve as the basis for evaluating performance, problem solving, and professional development.

Apparently, this argument would be supported by the respondents in this study, since they expressed a preference for such participation. As in the assessment of current organizational structure, the desire for participation did not vary among administrators of public, private, and private/state-related colleges. It did vary, however, among administrative positions. Deans expressed a significantly greater desire for participation than did associate deans; associate deans expressed a greater desire than chairs. All, however, expressed a desire for participation that would be classed as System 4, participative management; and the range of desired scores was narrower than the range of current scores.

The discrepancy between the current and desired administrative structures is the difference of two points on the ordinal continuum of 1 to 8, and reflects the differences between an authoritative and participative structure. This difference suggests that there are significant impediments to implementing a participative structure. With respect to deans, such impediments might include poor ego strength, poor interpersonal skills, time constraints, or inability to implement such a strategy due to lack of managerial skills. Several authors have lamented the lack of managerial education of administrators in colleges of dentistry and have called for increased attention to the development of such skills. A dean might believe that moving toward participative management would require relinquishing power. Even though the evidence suggests that increasing faculties' power through participation does not mean a decrease in the power of deans, deans could be understood to be reluctant to relinquish control.

From the perspective of faculty and administrators below the dean, movement toward the degree of participation desired is impeded by several factors. Jacobs has suggested that educators have been “socialized” by strong and authoritative administrators to become compliant subordinates. Faculty and lower level administrators are reluctant to force the issue of participation for fear of sanctions and because of a sensitivity to compliance with superiors as a vehicle for professional advancement. Oaks suggested that dental faculty are remarkably passive and are noted for lacking assertiveness and rarely participating in their own governance.

Although some might suggest that administrative experience could lead to a strong sense of confidence and away from a desire to participate, data from this study do not support such a belief. Increased years of administrative experience did not correspond with a reduction in the perceived value of participation.

Accepting Likert's thesis that organizational structure determines effectiveness in a changing environment, the data suggest that colleges of dentistry will be only marginally effective. The administrators share this assessment, rating the colleges' effectiveness at 5.30 on a continuum of 1 to 8. The significant positive correlation between the administrators' assessments of participation and their evaluations of effectiveness supports Likert's thesis. Although no difference existed between the effectiveness perceptions of deans and associate deans, the perception of chairs was significantly lower than both. This perception of lower college effectiveness is similar both to chairs' lower mean score for current administrative structure and to lower assessment of the effectiveness of deans, suggesting that chairs believe a link exists between administrative structure, college leadership by deans, and the current and future effectiveness of the college.

Change as one of the inevitabilities of organizational life has been an assumption of this investigation. Individuals responsible for the management of a college of dentistry must not only recognize that change is a constant feature of the college's environment but must also implement strategies to ensure that change will be developmental, resulting in the more effective accomplishment of collegiate goals. This focus on developmental change in organizations in the field of management is organizational development. The results of this investigation, which indicate that colleges of dentistry are marginally effective and have a relatively low level of participation in contrast to a high desire for participation, suggest the need for programs of organizational development. Successfully implementing such programming can be expected to result in higher faculty and administrator satisfaction, increased commitment to collegiate goals, and greater innovation—in short, greater effectiveness.

Conclusions
1. Using Likert's construct, the organizational structure of colleges of dentistry can be described as benevolent/authoritative, approaching consultative.
2. Deans, associate deans, and chairs express a high desire for a participative structure.
3. Administrators in dental education believe their colleges are marginally effective in managing in an environment of change.
4. A significant positive correlation exists between per-
ceived organizational effectiveness and participation.
5. Department chairs believe their deans are marginally effective in leading in an environment of change, and these assessments are directly related to the perceived degree of participative management in their colleges.
6. More administrative experience does not result in a view that participative college management is less valuable.
7. No differences exist among colleges of dentistry in perceived organizational structure and effectiveness as a result of different sources of institutional funding and control.

ACKNOWLEDGMENTS

The author acknowledges with gratitude those without whom this investigation could not have been accomplished: Dr. W. Robert Biddington and Dr. John O. Andres, who supported, instructed, and encouraged the author. Mr. Ray Sagers of Reinsel-Likert Associates, who provided invaluable consultative assistance; Ms. Jacqueline Sivers Thompson, who efficiently collected and recorded data; Ms. Georgeann Dunko-Nine, who provided manuscripts of accuracy and style; and Ms. Phyllis J. P. Nash, who understood.

REFERENCES

29. Hillenbrandt Fellowship in Dental Administration. Chicago, Ill.: American Fund for Dental Health.